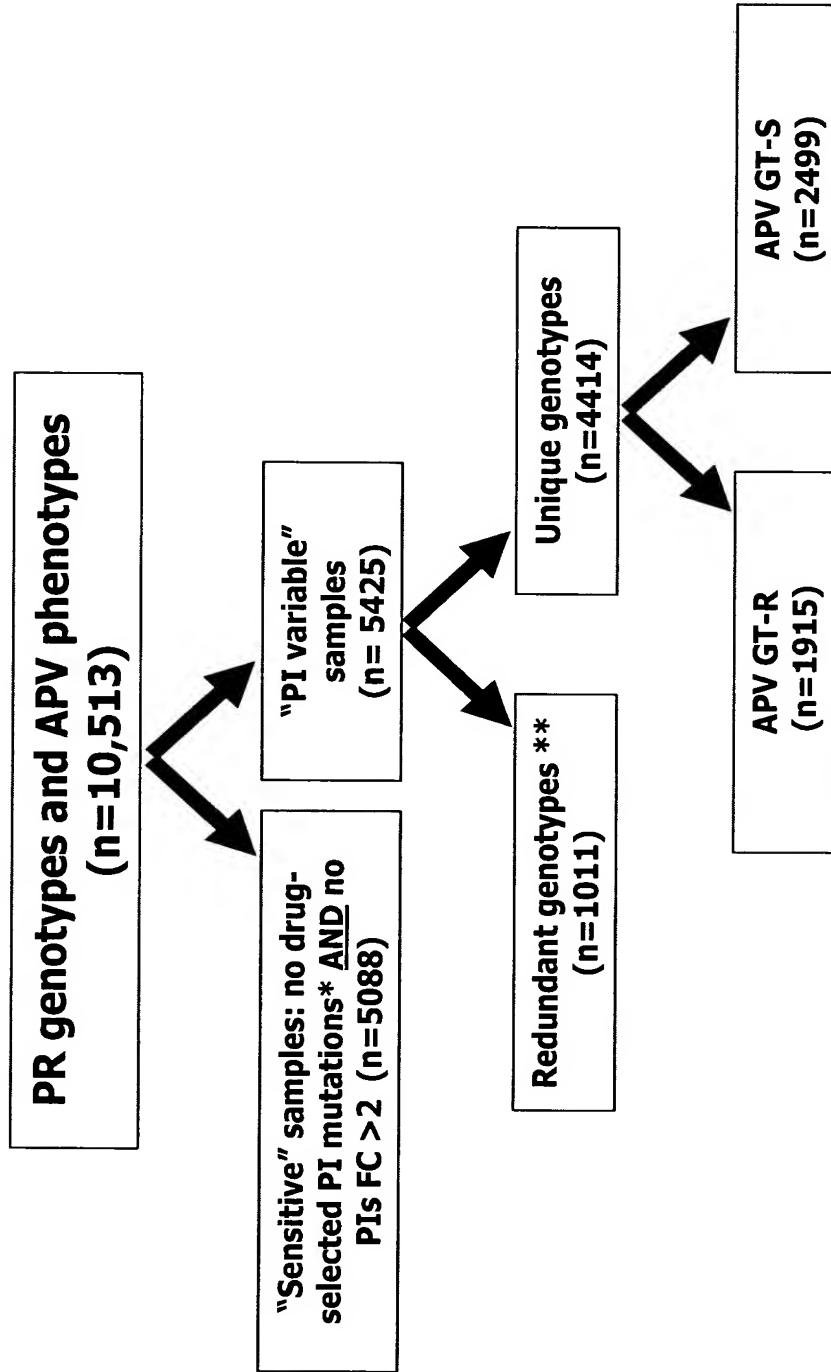


FIG. 1

FIGURE 2

Phenotype-Genotype Data Analysis



* drug-selected PI mutations: 23, 24, 30, 32, 33F, 46, 48, 50, 53, 54, 82 (except 821), 84, 88, 90

** samples with the same PR genotype

FIGURE 3A

SEQ. ID. NO: 1: NL4-3 HIV Protease Amino Acid Sequence

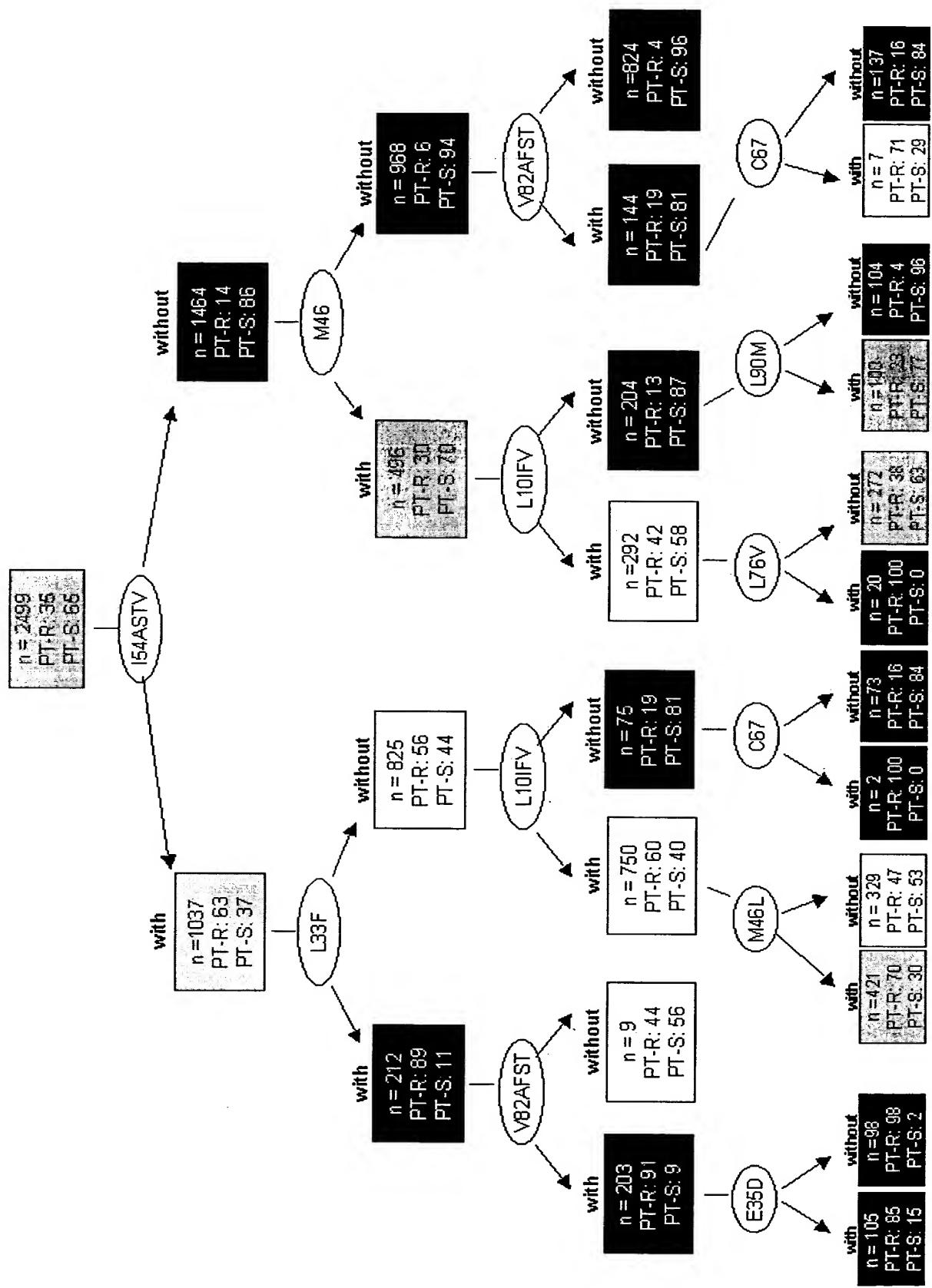
PQITLWQRPL VTIKIGGQLK EALLDTGADD TVLEEMNLPG RWKPKMIGGI
GGFIKVRQYD QILIEICGHK AIGTVLVGPT PVNIIGRNLL TQIGCTLNF

FIGURE 3B

SEQ. ID. NO: 2: NL4-3 HIV Protease Gene Nucleotide Sequence

1-10 cct cag atc act ctt tgg cag cga ccc ctc
11-20 gtc aca ata aag ata ggg ggg caa tta aag
21-30 gaa gct cta tta gat aca gga gca gat gat
31-40 aca gta tta gaa gaa atg aat ttg cca gga
41-50 aga tgg aaa cca aaa atg ata ggg gga att
51-60 gga ggt ttt atc aaa gta aga cag tat gat
61-70 cag ata ctc ata gaa atc tgc gga cat aaa
71-80 gct ata ggt aca gta tta gta gga cct aca
81-90 cct gtc aac ata att gga aga aat ctg ttg
91-99 act cag att ggc tgc act tta aat ttt

FIGURE 4



Predictive combinations

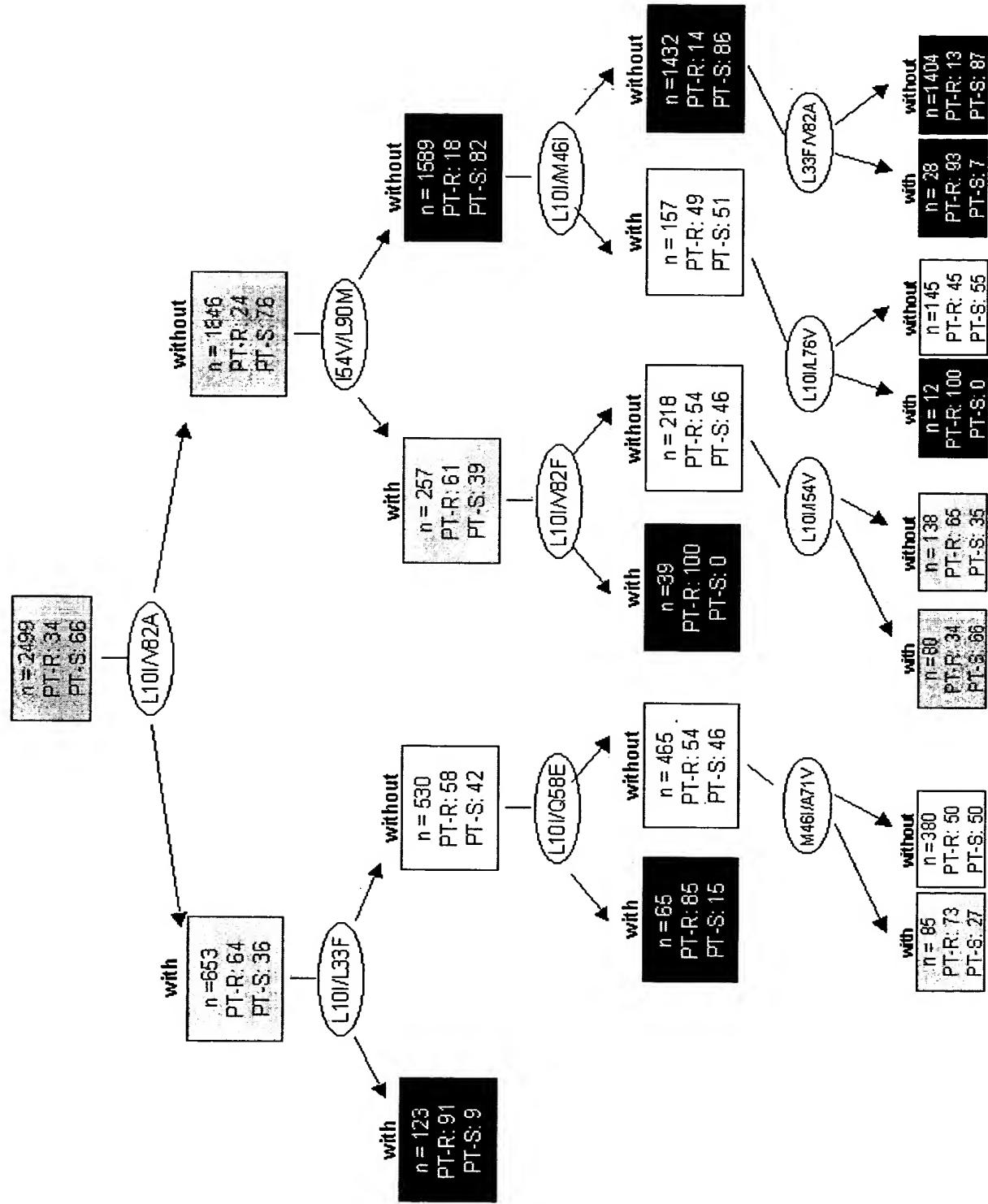
Strong (>80% R): (33, 54, 82), (54, 67), (10, 46, 76)
Moderate (60-80% R): (10, 46, 54), (67, 82)

Increasing proportion of resistant samples

FIGURE 5

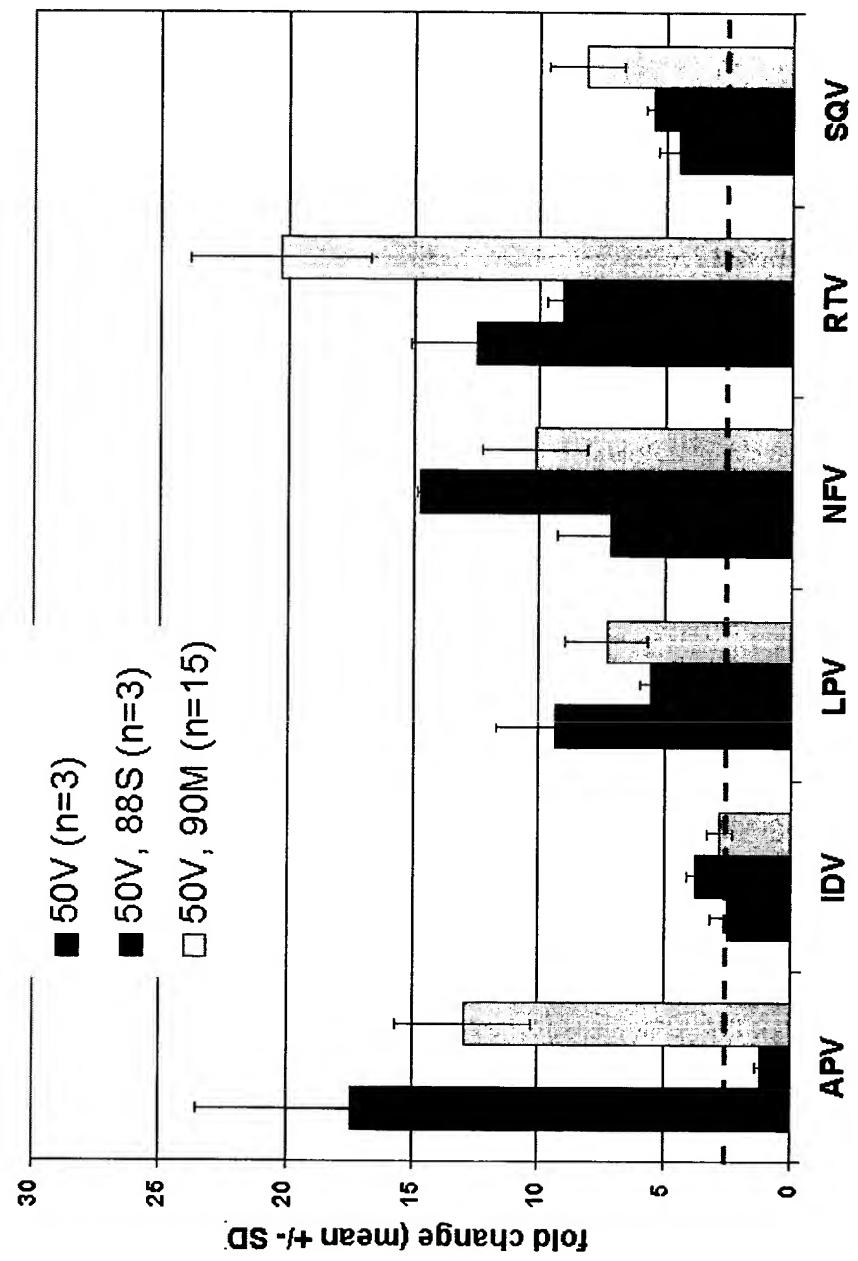
	10I	10F	11X	24I	33F	34Q	35D	43T	46I	46L	47V	48M	48V	53L	54A	54S	54T	54V	58E	67	71L	71V	73X	76V	82A	82F	82S	80M	91A					
10I	3 (47)	14 (42)	4.7 (172)	14.1 (161)	4.4 (30)	2.5 (453)	6.9 (16)	3.3 (385)	4.3 (229)	10.9 (27)	41.6 (23)	4.3 (182)	4.5 (146)	10 (44)	35.6 (10)	9.7 (49)	3.1 (646)	6.2 (137)	28.3 (16)	3 (576)	3 (254)	50.6 (32)	3.5 (653)	12.2 (704)	5.1 (48)	2.2 (704)	15.1 (16)	10I						
10F	3 (47)		6.8 (37)	7.6 (45)		6 (25)	2.6 (76)	4.8 (46)			6.4 (22)	4.5 (116)			7.2 (24)	20.1 (12)			3.3 (64)	11 (34)	17 (10)	4.2 (100)		18.8 (11)	3.3 (123)			10F						
11X	14 (42)			>>(24)			17 (30)	>>(9)	17.9 (21)	24.6 (14)	>>(8)			>>(18)				71.6 (36)	>>(7)		12.6 (46)	22.7 (26)		75.3 (43)				13.2 (48)	11X					
24I	4.7 (172)	6.8 (37)		24.6 (42)		4.7 (97)	9.4 (36)	3.1 (16)	5.6 (77)		12.1 (37)			4.6 (166)	20.6 (24)			4 (109)	22.7 (26)		5.1 (156)				11.3 (21)		24I							
33F	14.1 (161)	7.6 (45)	>>(24)	24.6 (42)		10.1 (127)	46.3 (51)	15.9 (55)	20.8 (84)	>>(7)	16.5 (39)	24.6 (56)	20.8 (12)	>>(6)	26.4 (15)	12.6 (77)	13.2 (46)		14.1 (36)	30.2 (66)	22.7 (13)	17 (180)	>>(13)	10.4 (13)	3.4 (150)	17 (10)	33F							
34Q	4.4 (30)										>>(8)	10.4 (13)							4.2 (31)					5 (28)			8.1 (28)		34Q					
33D	2.8 (463)		17 (30)	4.7 (97)	10.1 (127)		9.7 (86)	2.7 (215)	10.4 (13)	>>(12)	4.7 (70)	6 (63)	7.1 (19)	>>(18)			3.7 (398)	4.2 (96)		1.9 (412)	2.9 (143)	26.3 (33)	3.6 (340)	6.7 (45)	5.9 (29)	1.8 (520)		33D						
43T	6.8 (16)	6 (25)	>>(9)	9.4 (36)	46.3 (51)		9.7 (88)		7 (52)	>>(7)		26.4 (30)	14.2 (34)	>>(11)		8.2 (128)			6.6 (80)	10.7 (20)	>>(9)	9.1 (128)		13.2 (16)	8.1 (82)		43T							
46I	3.3 (395)	2.9 (75)	17.9 (21)	3.1 (116)	18.6 (55)		2.7 (215)	7 (52)		35.9 (20)	23.6 (27)	6.1 (72)	11.3 (14)	>>(17)	>>(16)	3.6 (286)	5.9 (74)		>>(10)	2.8 (282)	3.2 (371)	11.6 (50)	4.2 (250)	20.3 (47)		2.2 (400)	>>(10)		48I					
46L	4.9 (228)	4.8 (46)	2.6 (14)	5.8 (77)	20.8 (64)		4.2 (138)	17 (50)			11.6 (58)	7.1 (38)	>>(6)	>>(9)	30.2 (17)	5.1 (232)	11.6 (58)		4.6 (198)	4.5 (54)		4.4 (271)	1.1.3 (14)		4.6 (191)		46L							
47V	10.9 (27)		>>(8)		>>(7)		10.4 (13)	>>(7)	35.9 (20)				>>(16)			17 (20)	>>(7)		14.2 (17)				16.1 (19)			32. (16)	47V							
48M	41.6 (23)							>>(12)					20.3 (16)					>>(17)											48M					
49V	4.3 (162)			16.5 (99)	>>(8)	4.7 (70)	26.4 (30)	23.6 (27)	11.8 (68)				10.4 (13)	33.1 (37)	9.7 (49)	2.6 (98)		5.7 (28)			6.2 (115)	10.4 (13)		4.8 (191)			3.5 (100)		49V					
53L	6.4 (448)	6.4 (22)	>>(16)	12.1 (37)	24.6 (58)	10.4 (13)	8 (63)	14.2 (34)	6.1 (72)	7.1 (38)	>>(16)	28.3 (19)			5.5 (161)	14.2 (17)			4.2 (126)	6.8 (56)		5.8 (139)	22.7 (13)		4.1 (137)		53L							
54A	10 (44)	4.5 (116)		20.8 (12)		7.1 (19)	>>(11)	11.3 (14)	>>(6)		10.4 (13)								9.1 (35)			12.1 (37)				45.3 (25)		54A						
54S	35.8 (40)			>>(16)			>>(17)	>>(9)				33.1 (37)			16.9 (11)				>>(7)	31 (38)			36.6 (41)				>>(16)		54S					
54T	9.7 (47)			26.4 (15)			>>(18)	30.2 (17)			9.7 (48)			18.9 (11)				>>(7)	22.7 (39)			9.4 (54)				34 (19)		54T						
54V	3.1 (646)	71.8 (39)	4.6 (169)	12.8 (171)		3.7 (389)	8.2 (128)	3.6 (288)	5.1 (232)	17 (20)	>>(17)	2.6 (68)	5.5 (161)			6.5 (137)	3.1 (53)		3.4 (529)	5.7 (177)	20.1 (35)	3.1 (652)	17 (60)	5.3 (61)	3.7 (534)	13.9 (25)	54V							
55E	6.2 (137)	7.2 (24)	>>(7)	20.8 (24)	13.2 (68)		5.5 (74)	11.8 (58)	>>(7)		5.7 (28)	14.2 (17)			6.5 (137)	10.4 (13)			3.1 (63)	10.4 (13)										55E				
67	20.8 (12)	>>(6)															>>(7)														67			
71L	28.3 (16)							>>(10)									>>(7)													71L				
71V	3.7 (56)	3.3 (64)	12.6 (46)	4 (108)	14.2 (138)	4.6 (31)	1.8 (412)	6.6 (90)	2.6 (22)	4.6 (198)	14.2 (17)	>>(12)	6.2 (15)	4.2 (128)	9.1 (35)	32.1 (36)	22.7 (19)	3.4 (529)	6.7 (100)			24.1 (230)	16.4 (29)	4.2 (193)	25.8 (44)	5.8 (49)	2.2 (608)	>>(13)	71V					
73X	3.2 (24)	11 (34)	22.7 (26)	22.7 (26)	30.2 (68)		2.6 (143)	10.7 (20)	3.2 (111)	4.5 (54)		10.4 (13)	6.9 (58)			5.7 (177)	23.3 (40)			2.4 (230)											73X			
76V	58.6 (52)	17 (10)					22.7 (13)		28.3 (33)	>>(9)	11.6 (50)								20.1 (35)	20.6 (12)		18.1 (28)											76V	
82A	3.5 (653)	4.2 (100)	78.3 (43)	5.1 (158)	17 (180)	5 (28)	3.6 (340)	9.1 (128)	4.2 (250)	4.4 (271)	16.1 (19)	34 (19)	4.6 (181)	5.6 (138)	12.1 (37)	36.8 (41)	9.4 (54)	3.1 (652)	9.5 (121)	5.1 (28)	4.2 (463)	6.1 (148)										82A		
82F	12.5 (76)			>>(13)		8.7 (46)	20.1 (67)	11.3 (41)								22.7 (13)			17 (60)	>>(16)		25 (14)	>>(8)										82F	
82S	5.4 (46)	18.9 (11)		11.3 (21)	10.4 (13)		5.9 (28)	13.2 (16)										5.3 (61)	>>(8)		5.6 (49)	9.4 (12)		6 (21)										82S
89M	2.2 (704)	3.3 (123)	13.2 (48)		9.4 (150)	6.3 (26)		1.8 (500)	8.4 (62)	2.2 (400)	4.6 (181)	32.1 (16)	>>(16)	3.5 (100)	4.1 (137)	45.3 (25)	>>(16)	34 (19)	3.7 (534)	4.7 (142)	2.3 (66)		2.2 (606)	2.1 (328)	25.5 (26)	3.6 (684)	17.9 (63)	5.2 (34)	28.4 (15)	90M				
91A	15.1 (18)						17 (10)												13.8 (25)				>>(13)											91A
	10I	10F	11X	24I	33F	34Q	35D	43T	46I	46L	47V	48M	48V	53L	54A	54S	54T	54V	58E	67	71L	71V	73X	76V	82A	82F	82S	80M	91A					

FIGURE 6



Increasing proportion of resistant samples

FIGURE 7



additional mutations present:
L10I, I13V, E35D, M36I, R41K, L63P, A71V